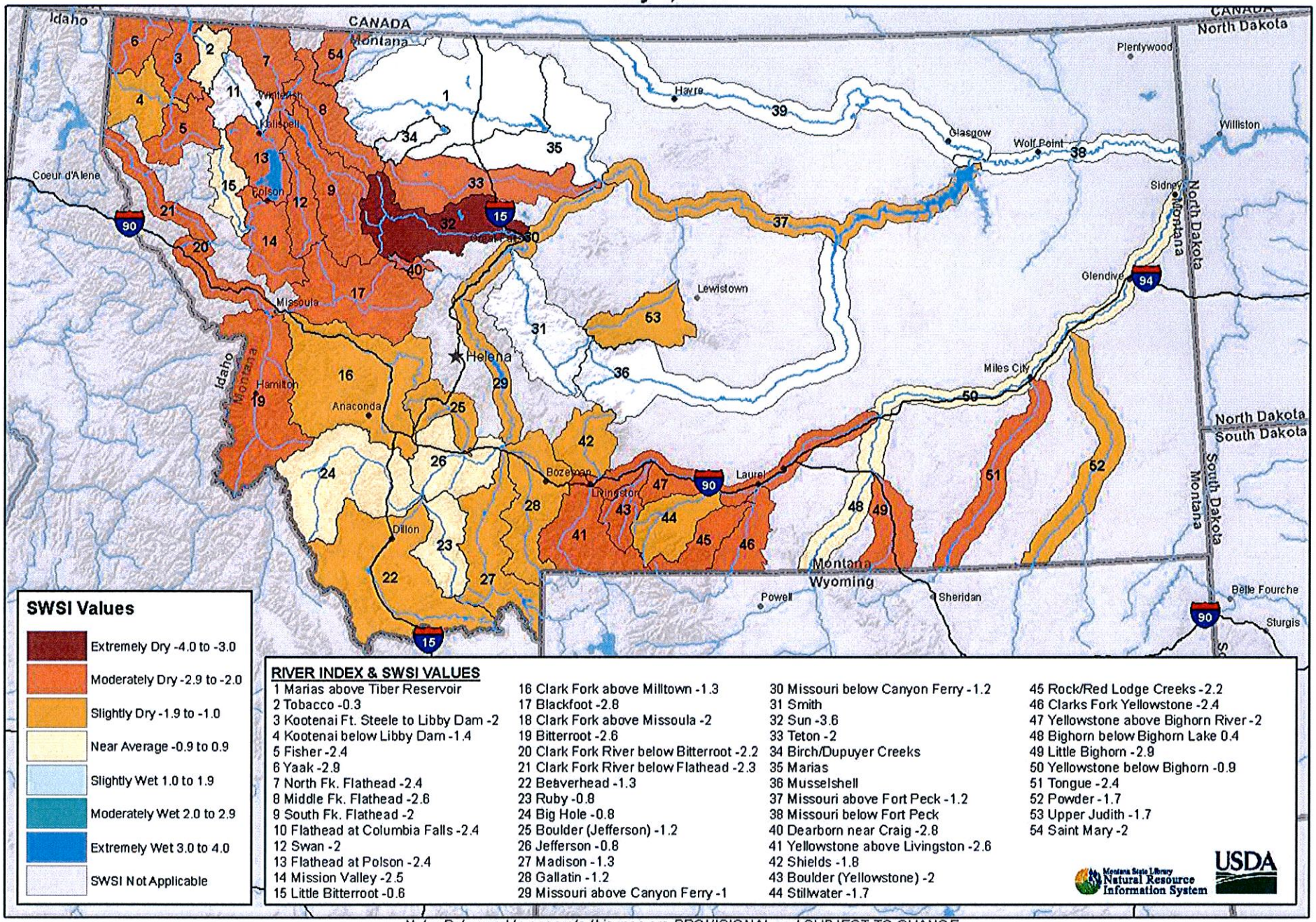
Montana Data Collection Office
Surface Water Supply Index (SWSI)
July 1, 2016



SWSI Values

- Extremely Dry -4.0 to -3.0
- Moderately Dry -2.9 to -2.0
- Slightly Dry -1.9 to -1.0
- Near Average -0.9 to 0.9
- Slightly Wet 1.0 to 1.9
- Moderately Wet 2.0 to 2.9
- Extremely Wet 3.0 to 4.0
- SWSI Not Applicable

RIVER INDEX & SWSI VALUES

1 Marias above Tiber Reservoir
2 Tobacco -0.3
3 Kootenai Ft. Steele to Libby Dam -2
4 Kootenai below Libby Dam -1.4
5 Fisher -2.4
6 Yaak -2.9
7 North Fk. Flathead -2.4
8 Middle Fk. Flathead -2.6
9 South Fk. Flathead -2
10 Flathead at Columbia Falls -2.4
12 Swan -2
13 Flathead at Polson -2.4
14 Mission Valley -2.5
15 Little Bitterroot -0.6
16 Clark Fork above Milltown -1.3
17 Blackfoot -2.8
18 Clark Fork above Missoula -2
19 Bitterroot -2.6
20 Clark Fork River below Bitterroot -2.2
21 Clark Fork River below Flathead -2.3
22 Beaverhead -1.3
23 Ruby -0.8
24 Big Hole -0.8
25 Boulder (Jefferson) -1.2
26 Jefferson -0.8
27 Madison -1.3
28 Gallatin -1.2
29 Missouri above Canyon Ferry -1
30 Missouri below Canyon Ferry -1.2
31 Smith
32 Sun -3.6
33 Teton -2
34 Birch/Dupuyer Creeks
35 Marias
36 Musselshell
37 Missouri above Fort Peck -1.2
38 Missouri below Fort Peck
40 Dearborn near Craig -2.8
41 Yellowstone above Livingston -2.6
42 Shields -1.8
43 Boulder (Yellowstone) -2
44 Stillwater -1.7
45 Rock/Red Lodge Creeks -2.2
46 Clarks Fork Yellowstone -2.4
47 Yellowstone above Bighorn River -2
48 Bighorn below Bighorn Lake 0.4
49 Little Bighorn -2.9
50 Yellowstone below Bighorn -0.9
51 Tongue -2.4
52 Powder -1.7
53 Upper Judith -1.7
54 Saint Mary -2

Montana State Library Natural Resource Information System

USDA

Note: Data used to generate this map are PROVISIONAL and SUBJECT TO CHANGE

FOR IMMEDIATE RELEASE

CONTACT
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Montana Dept. Natural Resources and Conservation
(406) 444-0465

June 30, 2016

Drought forums scheduled for Aug., Sept

HELENA, Mont. – Lieutenant Governor Mike Cooney today announced a series of drought forums to be held in several communities across Montana. The forums will allow Montana citizens to weigh in on the 2016 update of the Montana Drought Response Plan.

Meetings are scheduled in Havre, Billings, Bozeman and Missoula at the following times and locations:

August 16, 1- 2:30pm	Havre City Hall	520 4th St.
September 7, 3-4:30pm	Billings Public Library	510 N. Broadway
September 8, 11am – 12:30pm	Bozeman Public Library	626 E. Main St.
September 13, 2-3:30pm	Missoula Public Library	301 E. Main St.

In light of current dry conditions, Lt. Governor Cooney, who chairs the Governor's Drought and Water Supply Advisory Committee, wants input from local communities on steps the state can take to help them prepare for and respond to drought. Cooney and the Committee are in the process of updating the State's current Drought Response Plan.

Drought in Montana is cyclical and impacts can be reduced by early warning and coordinated response. Communities with clear, locally-driven response plans for times of low stream flow and soil moisture conditions have shown an ability to adapt have shown an ability to adapt to drought impacts and economic hardship.

For more information on the current Montana Drought Management Plan, visit drought.mt.gov.

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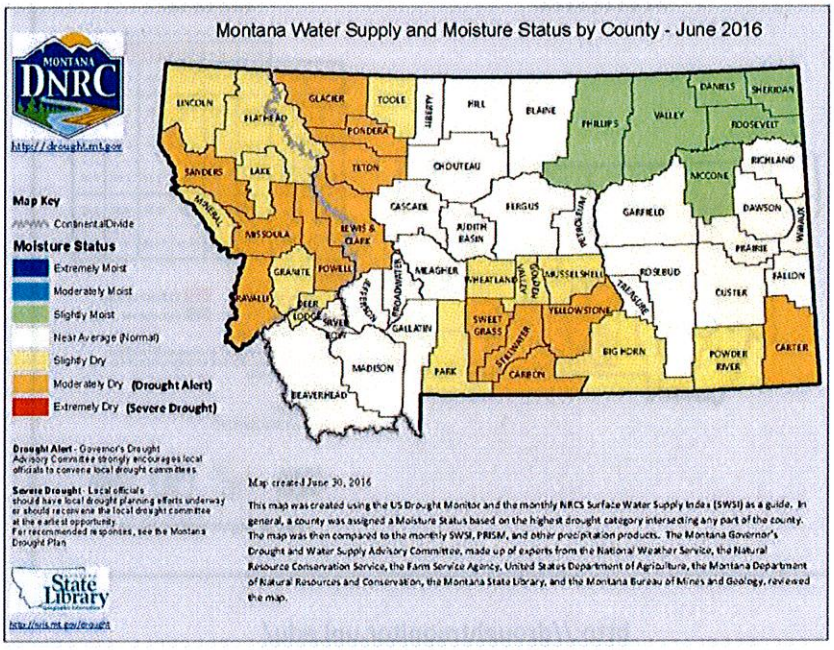
Montana Water Supply Monthly Report: July 2016

Overview:

The state as a whole is dealing with two years running of low snowpack coupled with early runoff. The spring melt occurred about 2-3 weeks early this year and all mountain snowpack reserves were depleted by the middle of May. As a result, the state is currently at the mercy of summer rains to make up any deficit in soil moisture or stream flows. The notable exception to this story is in the northeast of the state, where record rainfalls have led to plentiful water conditions and even reports of late-season flooding. Here is a map summarizing conditions as they were at the end of June 2016.



https://mslservices.mt.gov/Geographic_Information/Maps/Drought/

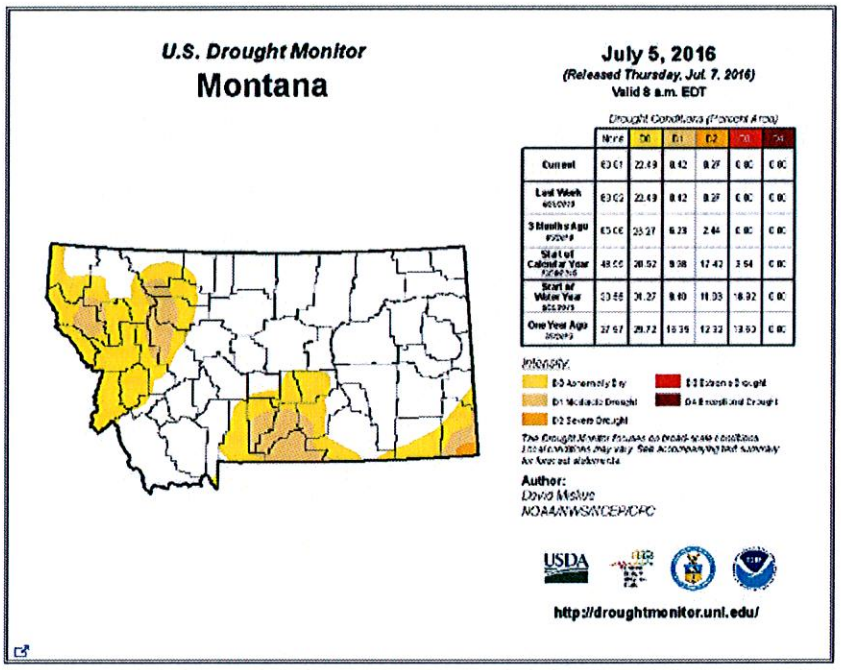
Drought Conditions:

According to the U.S. Drought Monitor, Montana continues to face pockets of dry conditions. When any portion of a county meets the D2 drought intensity rating (dark orange) for 8 consecutive weeks or a higher drought intensity rating, the USDA can automatically trigger a "Fast Track Secretarial" disaster designation making funding and loan assistance programs available. To date, only Carter County has been designated with a D2 intensity level and only for one week.

- The **Yellowstone** basin is particularly dry despite May rainfall that boosted reservoir levels. Sweet Grass, Stillwater, Carbon, Carter, and Powder River are all listed as either in Moderate or Severe Drought.

Montana Water Supply Monthly Report: July 2016

- The **Lower Missouri** is not in drought, with the exception of Golden Valley and Musselshell counties, which are abnormally dry.
- The **Upper Missouri** basin is especially dry along the Rocky Mountain Front. The Big Hole, Ruby and Beaverhead Rivers are also struggling. A Drought Alert was recently issued by the Lt. Governor, as chair of the Governor's Drought and Water Supply Advisory Committee (DWSAC) for Glacier, Pondera, Teton and Lewis & Clark Counties, where all users are encouraged to conserve water resources.
- The **Clark Fork and Kootenai** basins are also showing increasingly abnormally dry conditions, particularly on the west side of the Rocky Mountain Front and around Flathead Lake. Without additional precipitation it is likely the Bitterroot, Blackfoot and Upper Clark Fork will next show signs of drought. Sanders County is currently in moderate drought.



http://droughtmonitor.unl.edu/

Flooding Conditions:

Phillips County was under a flood advisory, but it was canceled on July 12, 2016.

Precipitation:

There is no snow left except in very high elevations. The runoff this year occurred about 2-3 weeks early, leaving the entire state at the mercy of summer rains to add any water supply. The total precipitation numbers for April -July show most of the state in the negatives, with the exception of the Northeast. The recent rain event mid-July added significantly to stream flows, but these flows will provide limited reprieve in the absence of continued rains. Meanwhile, reports continue to come in from ag producers in Sweet Grass, Stillwater, Deerlodge, and Powell counties of hauling water to livestock.

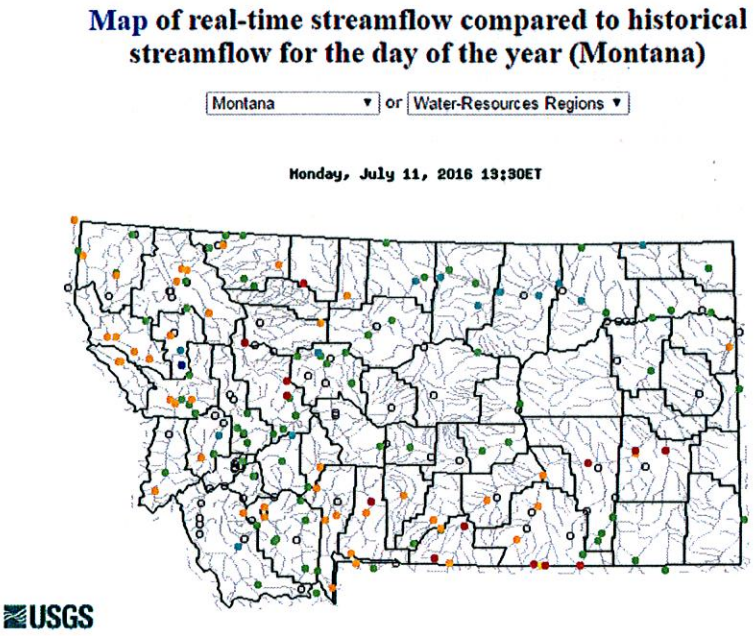
- The **Yellowstone** shows severely dry conditions in the southwest portion of Big Horn County as a result of spreading drought from South Dakota and Wyoming. Precipitation on July 10th increased in northern Gallatin, Sweet Grass, Stillwater, Yellowstone and Big Horn counties to above 100% of normal for this time of year.
- The **Upper Missouri** shows dry conditions coming up from the south in the West Yellowstone and Henry's Fork areas impacting the southern portions of Madison and Gallatin counties. West Yellowstone is considering a moratorium on all construction due to low water (http://www.bozemandailychronicle.com/news/water-shortage-may-force-west-yellowstone-building-moratorium/article_df36cf30-0f13-5ae6-874d-d131d639b86d.html). Precipitation on July 10th increased in northern Gallatin, Jefferson, Silver Bow and eastern Beaverhead counties to above 100% of normal for this time of year.
- The **Lower Missouri** shows fairly wet conditions, and a flood warning is in effect for Phillips county.
- The **Clark Fork and Kootenai** basins are generally 50-70% below average precipitation. The rain event on July 10th added significant amounts of water particularly in Missoula and northern Ravalli counties.

Real-Time Streamflow:

In general, the state is experiencing low moisture conditions in the Rocky Mountain Front, along the Yellowstone River, and in the west and northwest due to two years of low snow accumulation during the winter months, early runoff and higher temperatures. The notable exception to this summary is the Northeast portion of the state, where record rain events have led to above normal flow conditions. While drought is not widespread throughout the state, it is thanks to lucky rain events that have kept conditions at normal or just below normal. In the absence of more precipitation, conditions will continue to deteriorate.

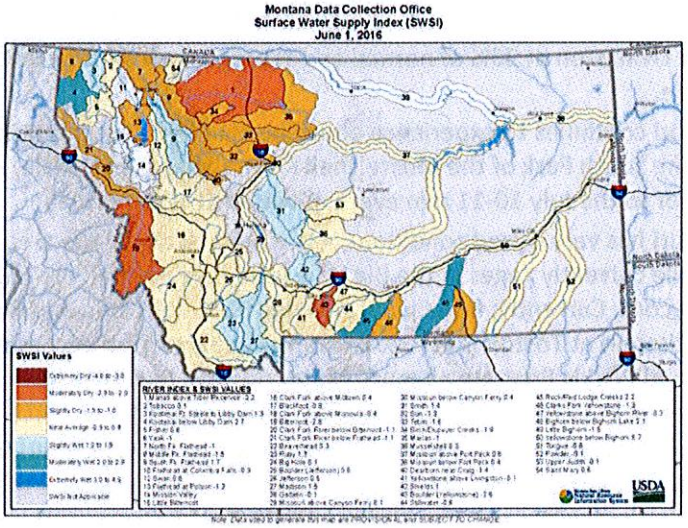
- The **Yellowstone** is running at flows much below normal for the full extent of its reach, with the Shields River near Livingston at 30% of normal and setting a new all-time low in 37 years of gage records for this site.
- The **Lower Missouri** continues to experience above normal flows for this time of year, with a few exceptions. The South Fork of the Musselshell River above Martinsdale, is currently at 60% of normal, but prior to the July 10-11 rain event, it was at 18% of normal.
- The **Upper Missouri** has very mixed conditions, with the majority of the area experiencing below normal flows. While currently gages in the Big Hole valley are normal, the month of June was the 4th driest on record. Currently, flows where the Big Hole, Jefferson and Ruby meet are below normal and the Missouri at Toston is at 43% of normal in 82 years of recording. The Sun, Marias, Teton, Dearborn and Prickly Pear are all much below normal. Red Rock River below Lima Reservoir, however, is at 128% of normal with 93 years of record.
- The **Clark Fork and Kootenai** basins are also characterized by mixed conditions. The West Fork of the Bitterroot River near Conner, MT. has set several all-time new lows in 75 years of record keeping and remains below normal. The Blackfoot near Bonner is currently reading at 965 cfs, but the area's trigger of 700 cfs for drought response remains on standby. The Mission Creek above the reservoir near St. Ignatius is showing flows much above normal with flows of 234 cfs.

Montana Water Supply Monthly Report: July 2016



http://waterwatch.usgs.gov/?m=real&r=mt

Surface Water Supply Index (SWSI):



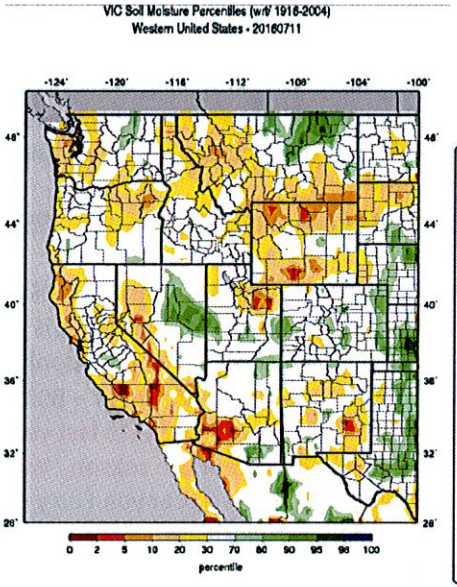
http://www.nrcs.usda.gov/wps/portal/nrcs/main/mt/snow/waterproducts/surface/#

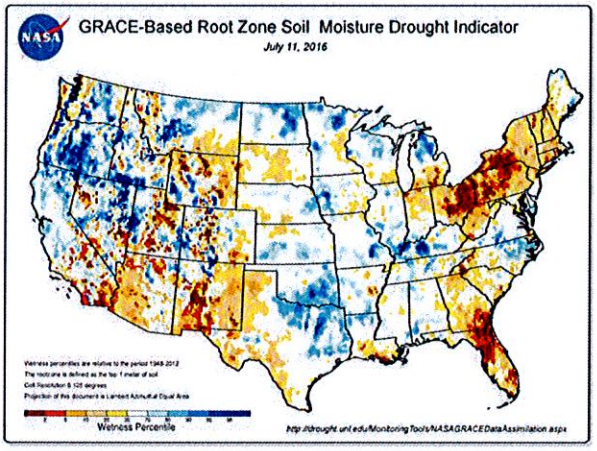
Montana Water Supply Monthly Report: July 2016

Soil Moisture:

According to the Crop Progress Report, about 60% of the state currently has adequate topsoil and subsoil moisture conditions, which is ~15% better than this time last year, and slightly better than the 5-year average. Local conditions vary widely, though.
https://www.nass.usda.gov/Statistics_by_State/Montana/Publications/Crop_Progress_&_Condition/2016/MT_Crop_Progress_07102016.pdf

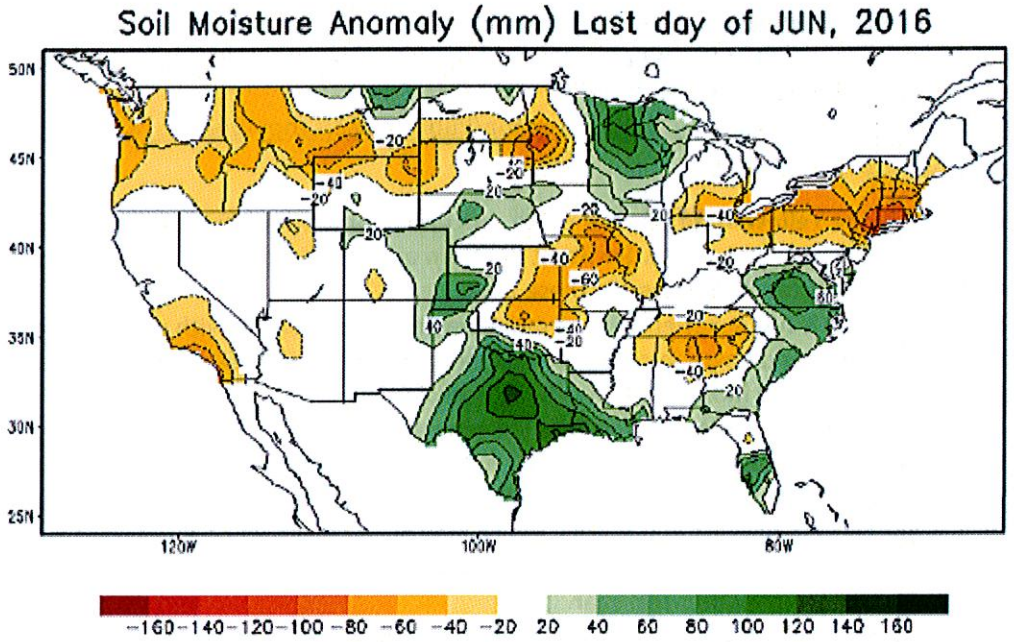
- Soil moisture in the **Yellowstone** is in the 5-10th percentile for much of Park, Gallatin, Sweet Grass, Rosebud, Custer, Carter, Powder River, Big Horn and Carbon counties. Rootzone soil moisture is also significantly depleted in these areas.
- The **Lower Missouri** is not experiencing soil moisture deficit as a whole, with some exception in Wheatland, Meagher and Cascade counties. Soil moisture in the northeast is in the 80-90th percentile. Root zone soil moisture is also doing well.
- The **Upper Missouri** is currently holding onto soil moisture, but dry conditions are moving in from both the east and the west. The Rocky Mountain Front remains an area of concern with a Drought Alert set for Glacier, Pondera, Teton and Lewis & Clark counties. Severely depleted soil moisture is apparent in pockets in this area, which may have an impact on groundwater as wells in this area are likely to respond to drought at a two year lag, so last year's low water conditions are likely to impact groundwater this year.
- The **Clark Fork and Kootenai** basins are especially dry in the Northwest around Powell, Granite, Missoula, Lake and Sanders counties. Areas of Flathead County are likely to also pose soil moisture issues going forward in the absence of rain.





http://www.hydro.washington.edu/forecast/monitor/curr/conus.mexico/west.vic.sm_qnt.gif
http://drought.unl.edu/monitoringtools/nasagracedataassimilation.aspx

Montana Water Supply Monthly Report: July 2016



http://www.cpc.noaa.gov/products/Soilmst_Monitoring/US/Soilmst/Soilmst.shtml#

Reservoirs:

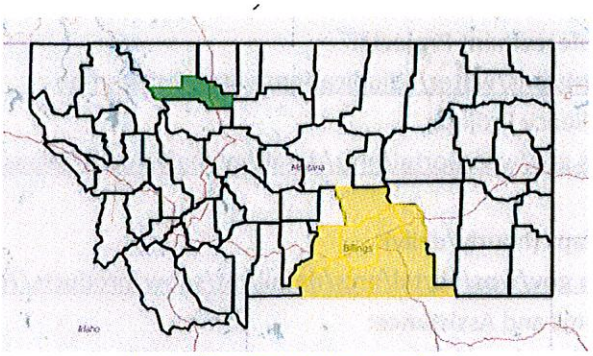
State-wide reservoirs peaked at the end of May, with most reaching full pool and spilling earlier than normal due to the advanced snowmelt rates. Since then inflows have dropped to near record lows for this time of year and demand will continue. Without inflows to refill the percentages will drop quickly.

- **Yellowstone:** Cooney – 96% of capacity; Cottonwood – 91% of capacity; Tongue River – 95% of capacity; Bighorn – 94% of full pool
- **Lower Missouri:** Ackley – 90% of capacity; Bair – 70% of capacity; Deadman's Basin – 87% of capacity; Frenchman – 98% of capacity; Martinsdale – 66% of capacity; N. Fk. Smith – 75% capacity; Yellowater – 59% of capacity; Nelson – 81% of full pool; Fresno – 86% of full pool
- **Upper Missouri:** Middle Creek – 97% of capacity; Nilan – 87% of capacity; Ruby River – 88% of capacity; Willow Creek – 95% of capacity; Clark Canyon – 50% of full pool (similar to last year, irrigation is just below their full allotments and won't change for the rest of the season. Winter flows on the Beaverhead River may be impacted if it continues to get drier); Canyon Ferry – 97% of full pool; Willow Creek – 75% of full pool; Gibson – 49% of full pool; Pishkun – 62% of full pool; Tiber – 89% of full pool; Sherburne – 87% of full pool.
- **Clark Fork/Kootenai:** E.F. Rock Creek – 87% of capacity; Nevada Creek – 60% of capacity; W.F. Bitterroot – 101% of capacity; Hungry Horse – filled to about 1 foot from full elevation is beginning a slow drawdown. Drawdown of 10 feet expected by end of September. Expect discharges of about 2,100 cfs. Discharges would be increased if the Flathead River at Columbia Falls is forecast to drop below the minimum flow of 3,500 cfs. Lake Como – currently being drawndown for irrigation with current withdrawals anticipated to be near normal levels by the end of the irrigation season.

Montana Water Supply Monthly Report: July 2016

Wildfire:

The potential for significant wildfire outlook for the state is concentrated in the Southcentral. In addition, there is a local burn ban for Pondera County.



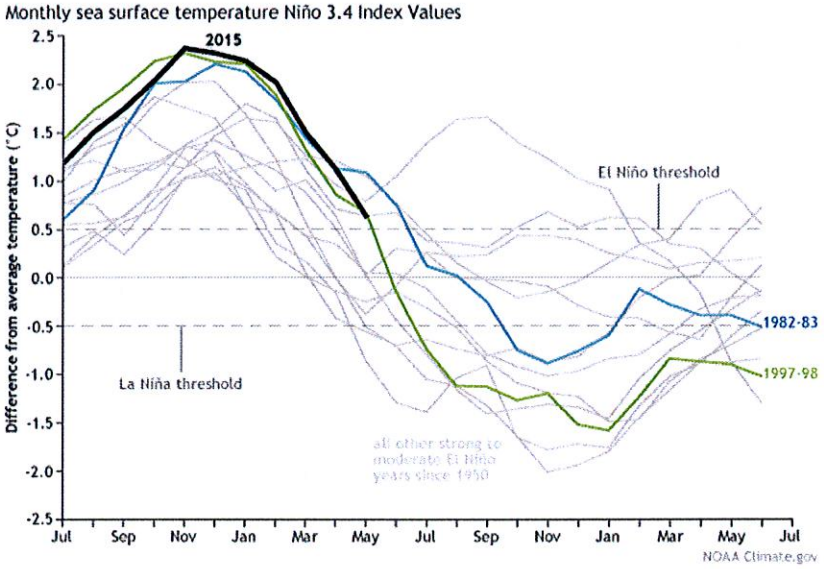
http://firerestrictions.us/mt/

Fisheries:

Hoot Owl fishing restrictions were instated for the East Gallatin, Gallatin, Jefferson, and Madison around the beginning of July and are still in effect. View more information and Water Body Reports here: http://fwp.mt.gov/fishing/guide/waterClosure.html

ENSO:

Experts agree the El Nino cycle is over and that it was one of the strongest since 1950. The potential of a La Nina cycle to follow is anticipated, but is currentlyl in a holding pattern. If temperatures go down and precipitation goes up, it likely won't be until September.



Monthly sea surface temperature in the Niño 3.4 region of the tropical Pacific compared to the long-term average for all moderate-to-strong El Niño years since 1950, showing how 2015/16 (black line) compares to other events. Climate.gov graph based on ERSSTv4 temperature data.

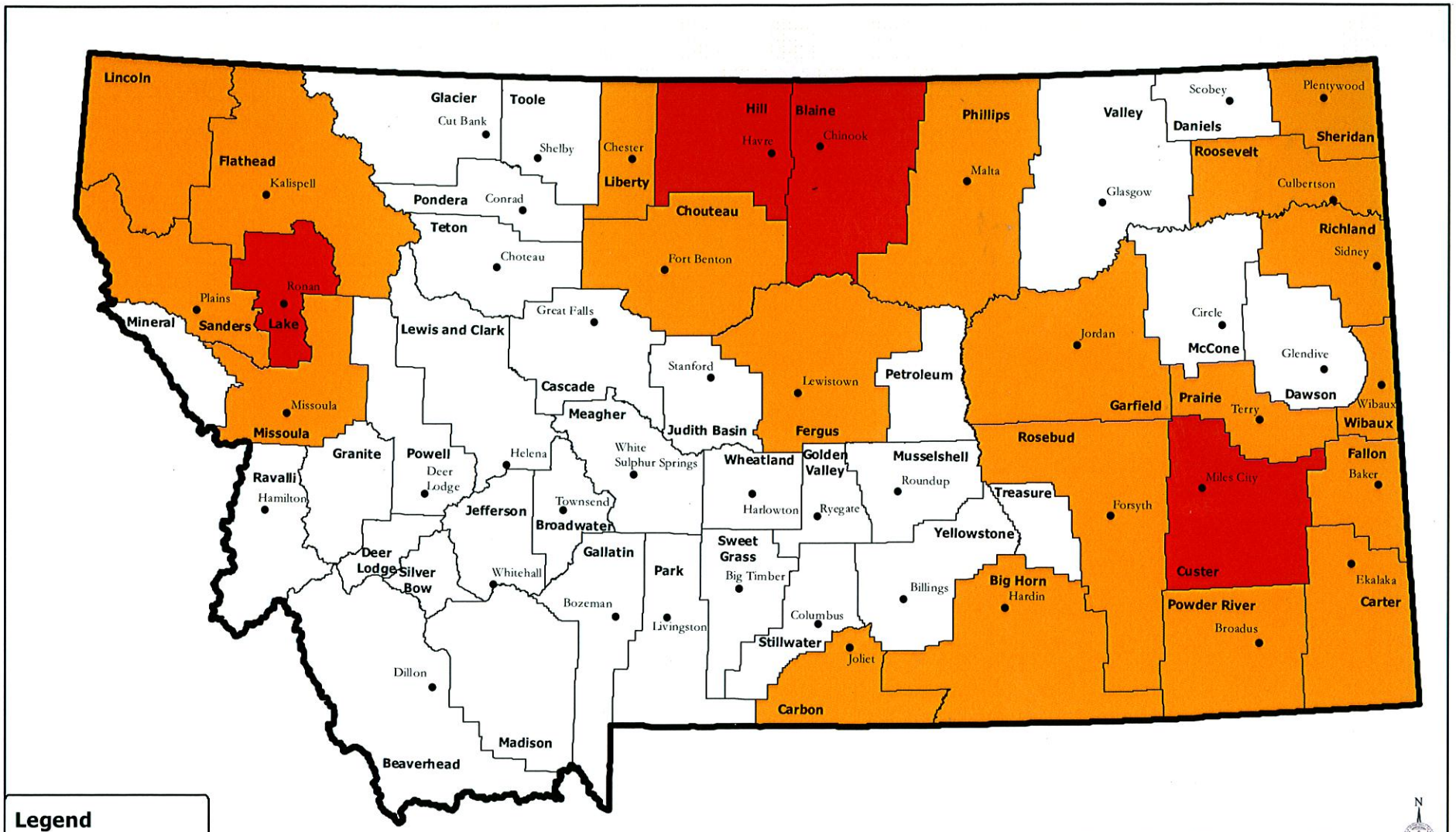
https://www.climate.gov/news-features/blogs/enso/june-enso-discussion-new-neutral

Resources:

- DNRC/Water Court Enforcement Projects: http://dnrc.mt.gov/divisions/water/adjudication/water-distribution
- National Drought Resliency Project: http://www.nrcs.usda.gov/wps/portal/nrcs/detail/mt/newsroom/releases/?cid=STELPRDB1257622
- Current Conditions Maps (hourly/daily): http://www.nrcs.usda.gov/wps/portal/nrcs/detail/mt/snow/products/?cid=nrcseprd1137464
- USDA Drought Programs and Assistance: http://www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contentid=usda_drought_programs.html
- Montana Drought Website: www.drought.mt.gov

USDA Farm Service Agency Montana

Counties Eligible for Disaster Assistance as of 7/1/2016



Legend

Counties

Designation

- Primary
- Contiguous

Map is intended for Farm Service Agency (FSA) business purposes only. Map depicts serves only as a general reference map.
USDA is an equal opportunity provider and employer.
Source: USDA Farm Service Agency and the State of Montana.

Data Based on EM Loan Termination Date and May Not be Valid after Date Published
See 1-DIS Exhibit 80 and Exhibit 81 for Specific Termination Dates

July 1, 2016

DISASTER ASSISTANCE

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SERVICE AGENCY

FACT SHEET

June 2015

Emergency Disaster Designation and Declaration Process

OVERVIEW

Agriculture-related disasters and disaster designations are quite common. Many counties in the United States have been designated as disaster areas in the past several years, even in years of record crop production.

The Secretary of Agriculture is authorized to designate counties as disaster areas to make emergency loans (EM) available to producers suffering losses in those counties and in counties that are contiguous to a designated county. In addition to EM eligibility, other emergency assistance programs, such as FSA disaster assistance programs, have historically used disaster designations as an eligibility trigger.

TYPES OF DISASTER DESIGNATIONS

FSA administers four types of disaster designations:

- USDA Secretarial disaster designation;
- Presidential major disaster and Presidential emergency declarations;
- FSA Administrator's Physical Loss Notification; and
- Quarantine designation by the Secretary under the Plant Protection Act or animal quarantine laws.

USDA Secretarial disaster designations must be requested of the Secretary of Agriculture by a governor or the governor's authorized representative, by an Indian Tribal Council leader, or by an FSA State Executive Director (SED). The Secretarial disaster designation is the most widely used and its process is the most complicated of the four. An expedited process for drought was introduced in 2012. The general process and the expedited process are described in further detail under "**Secretarial Disaster Designation Process**."

Presidential major disaster declarations, which must be requested of the President by a governor, are administered through the Federal Emergency Management Agency (FEMA). A Presidential major disaster declaration can be made within days or hours of the initial request. FEMA immediately notifies FSA of the primary counties named in a Presidential declaration.

An FSA Administrator's Physical Loss Notification (APLN) is for physical losses only, such as a building destroyed by a tornado. Livestock-related losses are considered physical losses. An APLN is requested of FSA's Administrator by an FSA SED.

A quarantine designation is requested of the Secretary of Agriculture by an FSA SED. A quarantine designation authorizes EM loans for production and physical losses resulting from quarantine.

WHAT DOES A DISASTER DESIGNATION SPECIFY?

A disaster designation specifies:

- The disaster that resulted in the designation;
- The incident period (dates) of that disaster;
- The specific counties included in the designation.

THE SECRETARIAL DISASTER DESIGNATION PROCESS

In 2012, USDA streamlined the Secretarial disaster declaration process to reduce paperwork and documentation requirements at the local FSA level, making the process more efficient and timely for agricultural producers. The program improvements included Fast Track Secretarial disaster designations for severe drought, which provide for a nearly automatic designation when, during the growing season, any portion of a county meets the D2 (Severe Drought) drought intensity value for eight consecutive weeks or a higher

drought intensity value for any length of time as reported in the U.S. Drought Monitor (http://droughtmonitor.unl.edu/).

For all other natural disaster occurrences, including drought conditions that do not trigger a Fast Track designation, the county must have a 30 percent production loss of at least one crop or a determination must be made by surveying producers that other lending institutions will not be able to provide emergency financing. The process for those Secretarial disaster designations is described below.

PROCESS

STEP 1
The governor, Indian Tribal Council leader, or FSA SED makes a request in writing to the Secretary of Agriculture within three months of the ending date of the disaster

STEP 2
FSA county offices assemble required agricultural loss information for the Loss Assessment Report (LAR).

STEP 3
The County Emergency Board (CEB) reviews the LAR and makes a recommendation to approve, defer, or reject the request.

STEP 4
The State Emergency Board (SEB) reviews the request and the CEB's recommendation. The SEB's recommendation is submitted to FSA's National Headquarters (NHQ).

STEP 5
FSA NHQ reviews the loss information on the LAR, determines eligibility, and prepares a package, including the letter of approval or disapproval, to be signed by the Secretary.

ELIGIBLE NATURAL DISASTERS

Eligible natural disasters are disasters in which damaging weather conditions or other adverse natural occurrence phenomena have substantially affected farmers causing severe production losses. Eligible natural disaster conditions include drought, flooding, excessive rain and humidity, severe storms, lightning, hail, mudslides and landslides, snow, ice, blizzards, frost, freeze, below-normal temperatures, wind, tornadoes, hurricanes, typhoons, tropical storms, fire, excessive heat, volcanoes, pests and disease.

FSA PROGRAMS INITIATED BY DESIGNATIONS AND/OR DECLARATIONS

All four types of designation, (Secretarial disaster designations, Presidential disaster declarations, APLNs, and quarantine designations) immediately trigger the availability of low-interest FSA EM loans to eligible producers in all primary and contiguous counties. More information about EM loans is available at http://www.fsa.usda.gov/programs-and-services/farm-loan-programs/emergency-farm-loans/index.

FSA borrowers located in designated disaster areas or contiguous counties, who are unable to make their scheduled payments on any debt, may be authorized to have certain set asides. Under Section 331A of the Consolidated Farm and Rural Development Act, FSA is authorized to consider setting aside certain payments owed by FSA borrowers to allow the operation to continue.

Additional disaster assistance requiring a designation may also be provided by new programs in the future.

REGULATION GOVERNING DISASTER DESIGNATION PROCESS

The regulation governing disaster designations is at 7 CFR Part 759. The rule was published in the Federal Register on July 13, 2012, at http://www.gpo.gov/fdsys/pkg/FR-2012-07-13/html/2012-17137.htm.

FOR MORE INFORMATION

For more information on FSA disaster programs, visit http://disaster.fsa.usda.gov or visit your local FSA county office. To find your local FSA county office, visit http://offices.usda.gov.